

RECLAMATION

Managing Water in the West

San Luis Drainage Feature Re-Evaluation Draft EIS

July 2005

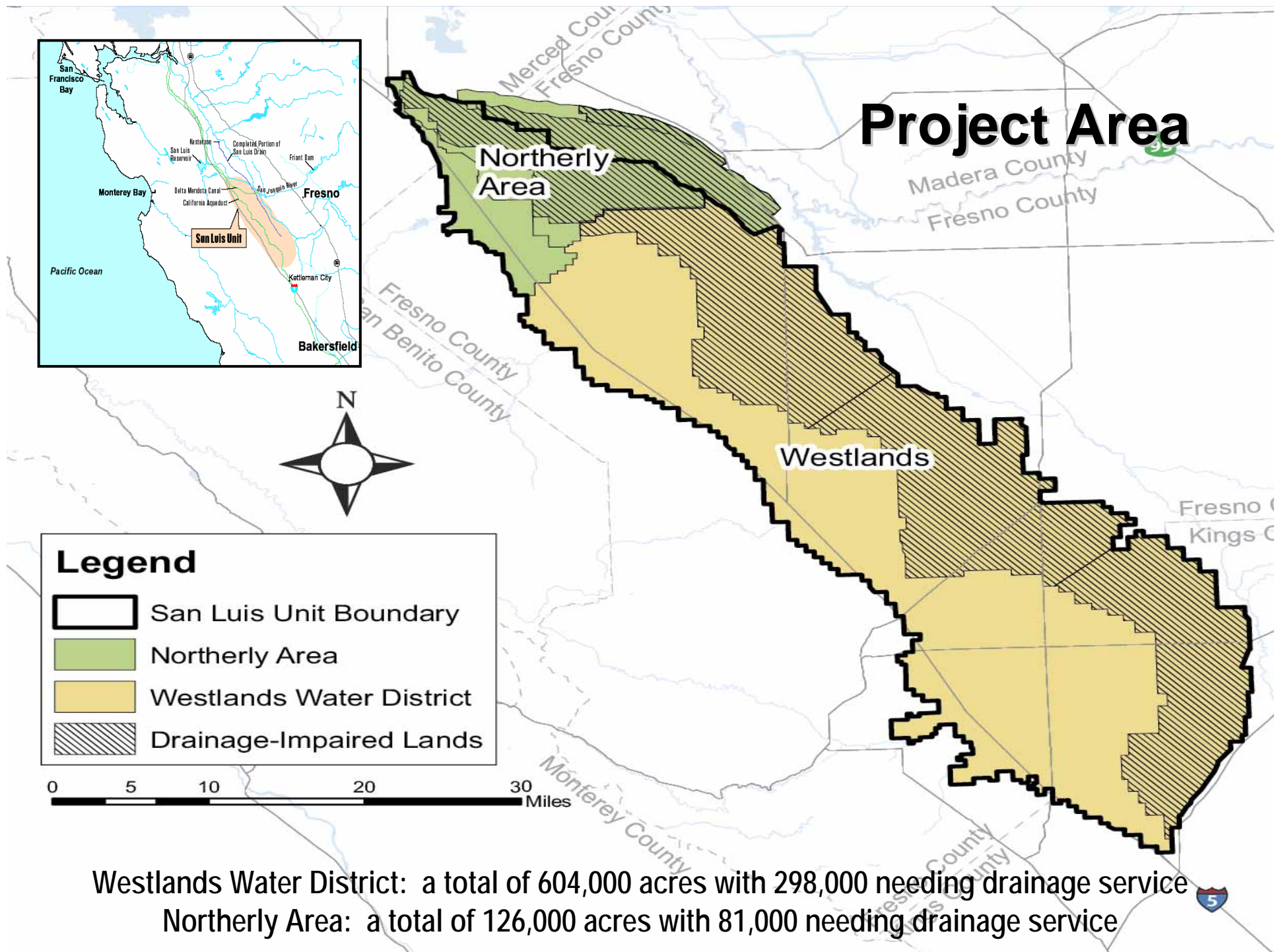


U.S. Department of the Interior
Bureau of Reclamation

Project History

- 1960 San Luis Act
- 1968-75 San Luis Drain Partial Construction
- 1983-85 Selenium Toxicity at Kesterson
- 1992-95 Sumner-Peck Litigation and Judgment
- 2000 U.S. Court of Appeals Judgment
- 2001 Plan of Action
- 2002 Plan Formulation Report
- 2004 Amended Plan of Action for Land Retirement
- 2005 Draft Environmental Impact Statement

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Project Objectives

- **Drainage service be a complete solution**
 - Identify required measures/facilities
 - Consider water production through disposal
- **Drainage service must be technically proven and cost effective**
- **Drainage service must be provided in a timely manner**
- **Drainage service should minimize adverse environmental effects and risks**

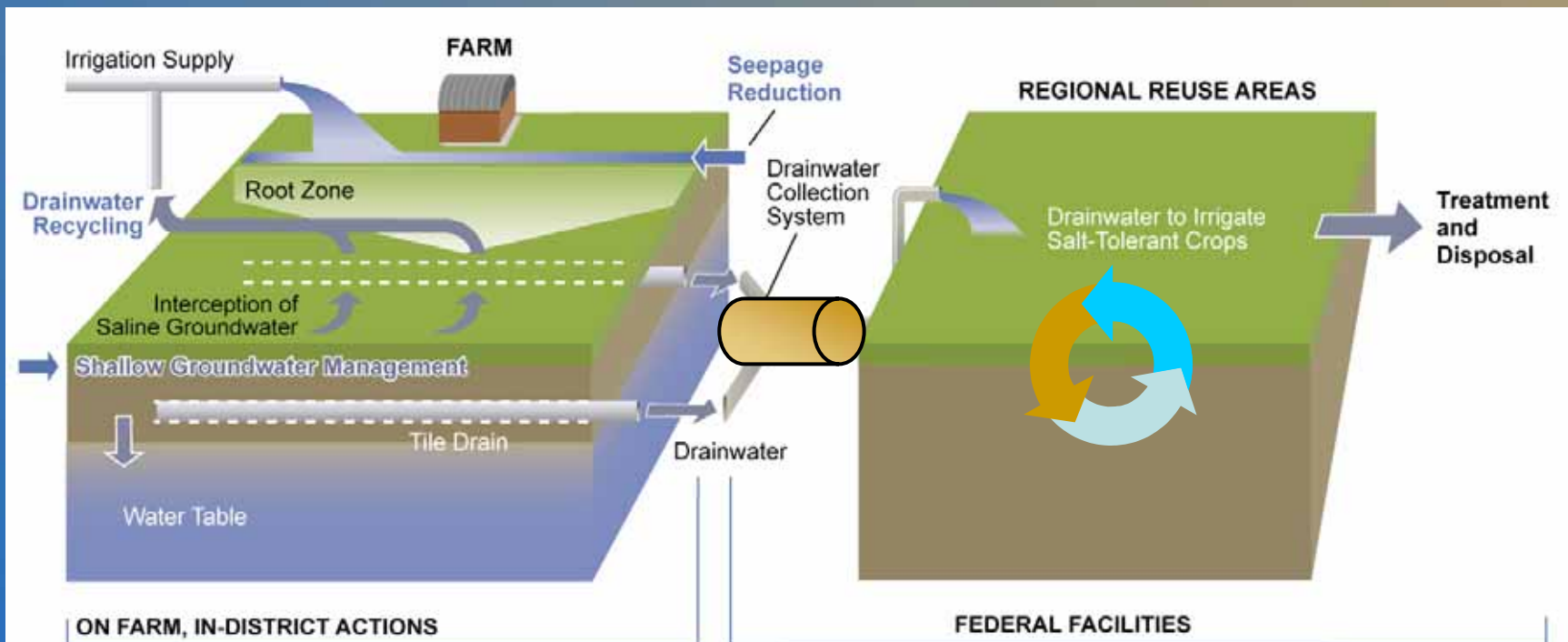
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Alternatives Evaluated

- **No Action Alternative**
 - No Federal action
- **In-Valley Alternatives**
 - In-Valley Disposal - no additional land retirement
 - In-Valley Groundwater Quality - retire “Hotspots”
 - In-Valley Water Needs - retire to meet water needs
 - In-Valley Drainage-Impaired - retire all impaired lands in Westlands area
- **Out-of-Valley/Delta Disposal Alternatives**
 - Chipps Island Disposal
 - Carquinez Strait Disposal
- **Out-of-Valley/Ocean Disposal Alternative**
 - Point Estero

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Alternative Common Elements



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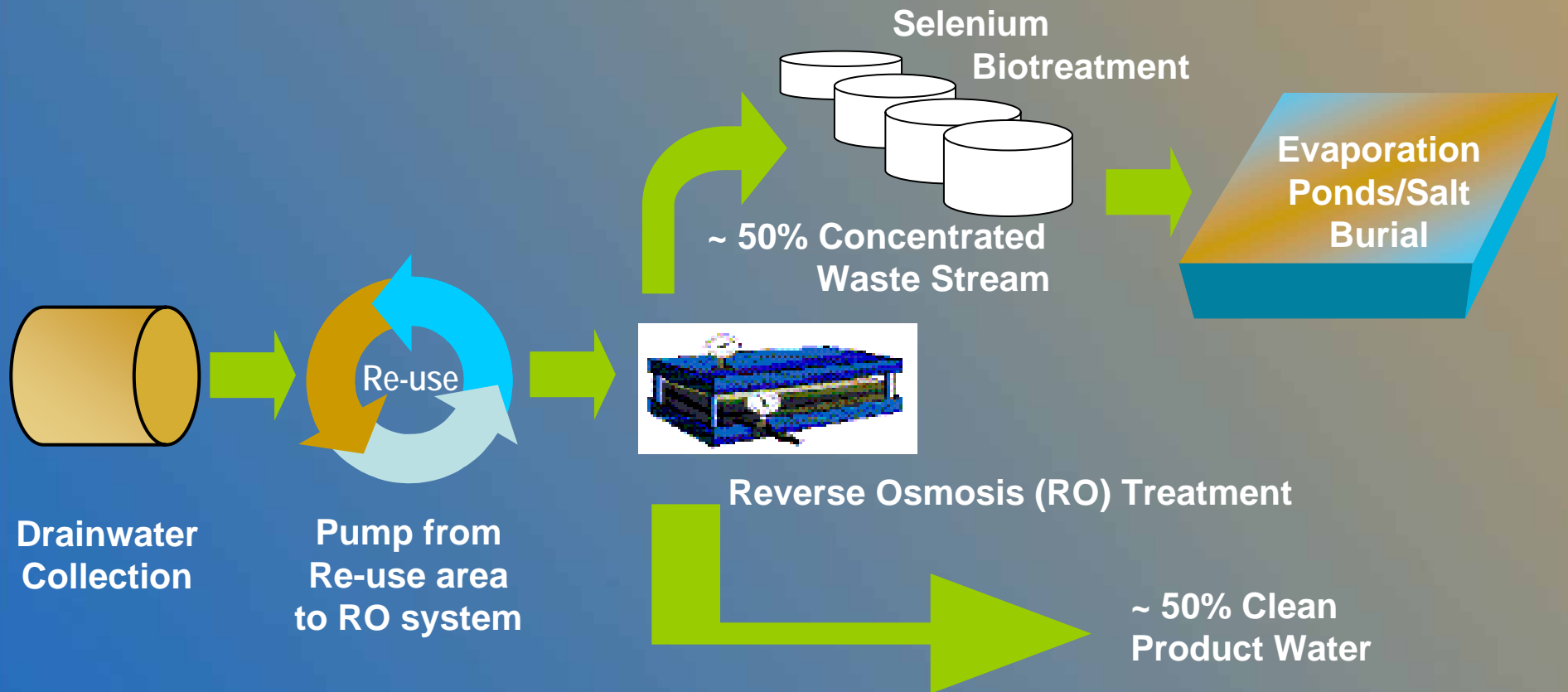
Average Annual Drainage Flows & Drainwater Reduction

Volume In Acre-Feet	In-Valley Full Drainage	Land Retirement Components			Out-of-Valley Ocean & Delta
		In-Valley Groundwater Quality	In-Valley Water Needs	In-Valley Drainage- Impaired Area	
Drainage flow without reduction	97,000	85,000	63,000	36,000	97,000
*Drainage flow with drainwater reduction	70,000	61,000	45,000	27,000	70,000
Drain flow with drainwater reduction and regional reuse facilities	21,000	18,500	14,000	8,100	21,000

*Includes, drainwater recycling, shallow groundwater management, and seepage reduction.

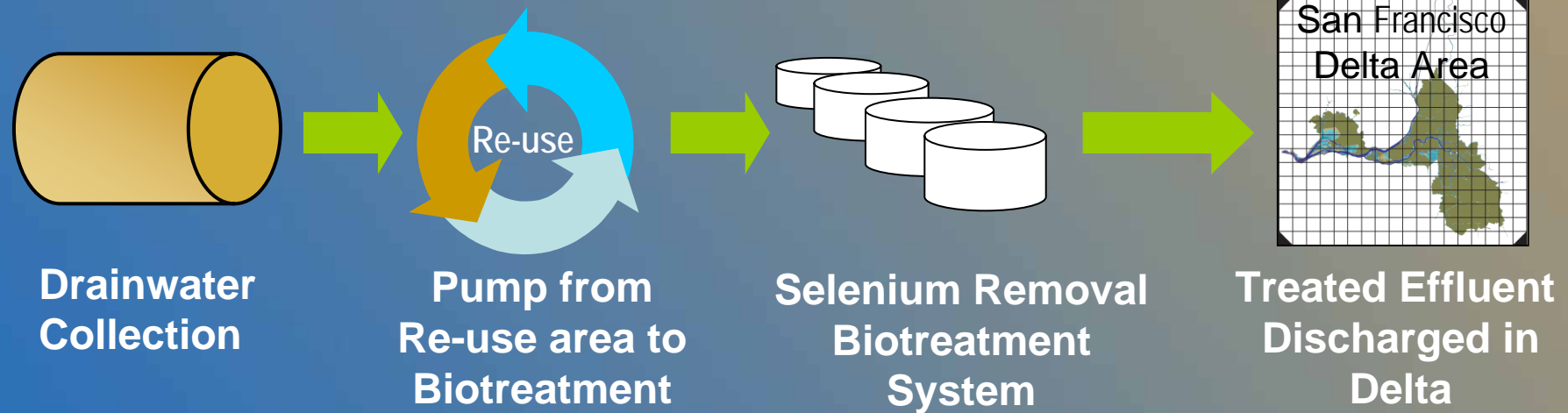
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In-Valley Disposal Alternatives



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Delta Disposal Alternatives



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Ocean Disposal Alternative



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Components of Alternatives

Alternative	*Acres Retired	Acres of Reuse	Reverse Osmosis	Selenium Treatment	Evaporation Ponds (ac)
No Action	44,100				
Out-of-Valley Delta	44,100	19,000		X	0
Out-of-Valley Ocean	44,100	19,000			0
In-Valley Full Drainage	44,100	19,000	X	X	3,290
In-Valley Ground Water	92,600	16,700	X	X	2,890
In-Valley Water Needs	194,000	12,500	X	X	2,150
In-Valley Drainage Impaired	308,000	7,500	X	X	1,270

*Assumes that retired agricultural lands would be fallowed or managed as dryland farming or grazing lands.

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Current Cost Estimates (\$Million)

Alternative	Construction	Annual O, M & R	Present Worth	Annual Equivalent
In-Valley Full Drainage	607	19.8	562	33.8
In-Valley Groundwater Quality	676	18.1	626	37.6
In Valley Water Needs	828	15.1	773	46.5
In-Valley Drainage Impaired	918	10.9	857	51.6
Out-of-Valley Ocean Disposal	589	11.6	563	33.8
Out-of-Valley Delta Disposal Chipps Island	630	12.5	562	33.8
Out-of-Valley Delta Disposal Carquinez Strait	673	12.5	598	36.0

All Action Alternatives exceed the current authorized spending limit.

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Potentially Significant Environmental Effects

- **In-Valley Alternatives**
 - Evaporation pond impacts on migrating water birds and terrestrial species
 - Socio-economic impacts of large scale land retirement
- **Out-of-Valley/Delta Disposal Alternatives**
 - Potential increased selenium loading to the Delta
 - Potential impacts to special status species
- **Out-of-Valley/Ocean Disposal Alternative**
 - Drainage discharges to ocean environments
- **All Alternatives**
 - Operation of reuse areas may expose terrestrial species to elevated selenium

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Findings

- No alternative is the clearly superior alternative
- No preferred alternative identified in the Draft EIS
- An In-Valley Alternative is anticipated to be the preferred alternative
 - Flexible
 - Adaptable

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Thank You

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